

REMARKS

Claims 14-27 were previously pending. The drawings were objected to under 37 C.F.R. 1.84(u)(2) for having view numbers not larger than the reference characters and under 37 C.F.R. 183(a) for not showing every feature of the claims. Claim 19 was objected to for being in improper dependent form. Claims 14-27 were rejected under 35 U.S.C. § 101 for being inoperative and lacking utility. Claims 14-27 were rejected under 35 U.S.C. § 112 for failing to comply with the enablement requirement. Claims 14-17, 23 and 26-27 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 3,880,551 to Kisovec.

In response Applicants have amended the figures, amended claim 14 to include the subject matter of claim 25, and amended claims 18, 20, 21, 22 and 24 into independent form. The Specification has been amended to correct a typographical error and conform with the amendments made to the figures. Upon entry of the amendments, claims 14-24, 26 and 27 will be pending. Reconsideration and withdrawal of the rejections in view of the amendments and the following remarks is respectfully requested.

Objections to the Drawings

The drawings were objected to under 37 C.F.R. 1.84(u)(2) for having view numbers not larger than the reference numbers. The figures are amended to include larger uniform view numbers.

The drawings were objected to under 37 C.F.R. 1.83(a) for not showing every feature of the invention specified in the claims. Amended Fig. 5 shows the “outer free end” 20 recited in claim 22 and schematically shows a “helicopter” 1 as recited in claim 27 which is a type of “rotary-wing aircraft” as recited in claim 26. Amended Fig. 4 shows a “second separate plate part” 18 as recited in claim 24. With respect to the feature of claim 25 that “at least one portion of the rotor mast extends through the central opening connection-free,” Applicants respectfully submit that this feature is illustrated in Fig. 1, which shows rotor mast 2 inside central opening 12 of the rotor plate, and spaced therefrom. Thus, at least one portion of the rotor mast is shown extending through the central opening connection free, as recited in claim 25. Applicants request reconsideration and withdrawal of the rejection.

Amendments to the Specification

The Specification has been amended to be consistent with the amended drawings. In addition the Specification has been amended to correct a typographical error made in the originally filed Specification. Paragraph [0018] of the originally filed application set forth that a separation point for detachably fastening a rotor blade was included on the mast-connection arm. The separation point for the rotor blade should be on the blade-connection arm, as is evident throughout the Specification and is consistent with the names given to the connection arms. Paragraph [0018] has been amended to correct this error.

Objection to the Claims

Claim 19 was objected to as being of improper dependent form. Applicants have amended claim 19 in accordance with the Examiner's suggestion. Reconsideration and withdrawal of the objection is requested.

Rejections Under 35 U.S.C. §§ 101 and 112

Claims 14-27 were rejected under 35 U.S.C. § 101 for lacking utility because the invention is inoperative and under 35 U.S.C. § 112 as failing to comply with the enablement requirement. The Examiner states that the recitation that the rotor includes "a plurality of bending-flexible rotor mast-connection arms that are free of centrifugal force" violates Newton's second law of motion. The Examiner also states that the Specification does not enable one of ordinary skill in the art to make a mast-connection arm that is free of centrifugal force. Applicants respectfully traverse the rejection.

The term bending-flexible, free of centrifugal forces is clearly defined in paragraph [0006] of the originally filed application.

As used in the invention, the terms "bending-flexible, free of centrifugal forces", referring to the rotor mast-connection arms, mean that these arms are constructed so as to be bending-flexible and they are arranged on the rotor head and separated from the centrifugal-force load path of the rotor blades in such a way that they are not loaded by the very high centrifugal forces that occur during operation of the rotor due to the rotating rotor blades.

Thus, the rotor mast-connection arms are “free of centrifugal forces” by not being disposed between the rotor blades and the mast.

With respect to Newton’s second law of motion represented by equation 1 below, it is

$$F = m \cdot a \quad (\text{eqn. 1})$$

respectfully submitted that claims 14-27 do not violate the law. It is well known that a body moving in a circular path has a centripetal acceleration toward the center of that path. The mast-connection arms move in a circular path and thus have a centripetal acceleration. The force required to keep the mast-connection arms moving in the circle and having a centripetal acceleration is a centripetal force, toward the center of the circle. Thus, there is no indication from Newton’s second law that the mast-connection arms would be subject to a centrifugal force, away from the center of the circle. See, for example, http://en.wikipedia.org/wiki/Centrifugal_force. Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. §§ 101 and 112.

Rejections Under 35 U.S.C. § 102

Claims 14-17, 23, 26 and 27 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,880,551 to Kisovec. Claim 14 has been amended to include the feature recited in previously presented claim 25 that “the plate-shaped rotor head element includes a central opening” through which “at least a portion of the rotor mast extends.” Support for the amendment can be found in paragraph [0019] of the originally filed Specification.

As a function of the rotor head construction in question, and especially of the configuration of the torque-transmission element 4 and its connection to the rotor mast 2, the plate 6, as shown in Figure 1, can have a central opening 12 through which the rotor mast 2 or part of it extends (that is to say, without direct connection to the plate 6 or else with play relative to the plate 6).

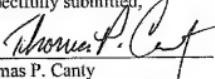
Claim 25 was not rejected under 35 U.S.C. § 102 and the feature added to claim 14 is not disclosed in Kisovec. Thus, amended claim 14 is not anticipated by Kisovec. Claims 16, 17, 23, 26 and 27 depend from claim 14 and are patentable for at least the same reasons as claim 14. Applicants respectfully request reconsideration and withdrawal of the rejection.

CONCLUSION

It is respectfully submitted that the application is now in condition for allowance.

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Respectfully submitted,

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